

REMARKS

The preceding amendment is respectfully submitted in response to the final Office Action of October 30, 2003 on the above-identified application. Entry of the amendment is requested, as is a reconsideration by the Examiner of the claims as amended.

In the final action, claims 1 through 11 were rejected on the basis of the prior art.

Turning first to the amendments set forth above, claim 1 has been amended to incorporate the limitation formerly set forth in claim 2, which has been cancelled. Claim 1 has been additionally amended to set forth the various pulse plating power sources used to practice the invention. Support for this additional limitation may be found in the specification at page 11, lines 7 through 24.

Two new claims are being added by the amendment. Claim 12 is also supported by the specification at page 11, lines 7 through 24. Claim 13, which sets forth that the plating current is pulsed to form a rectangular wave, is supported in the specification at page 12, lines 23 through 27.

Turning now to page 2 of the action, claims 1 through 9 are rejected under 35 U.S.C. §103(a) as being unpatentable for obviousness over Omasa (U.S. Patent No. 6,123,815) in view of Lashmore (U.S. Patent No. 4,461,680). Claims 10 and 11 were also rejected as being unpatentable for obviousness over Omasa in view of Lashmore, and further in view of the "Electroplating Engineering Handbook".

In the present invention, as claimed in the amended claims set forth above, the first plating current value I_1 is 6 to 25 times as large as the second value I_2 , and the first time T_1 is 4 to 25 times as long as the second time T_2 . In addition, the pulse plating power source is a transistor adjustment type power source, a dropper type power source, a switching power source,

a silicon rectifier, an SCR rectifier, a high-frequency type rectifier, an inverter digital control type rectifier, a power source containing a switching regulator type DC power source and transistor switch, a high-frequency switching power source, a PR type rectifier, or a high-frequency control type high-speed pulse PR power source.

According to such pulse plating power sources, a rectangular wave in which the first plating current value I_1 is 6 to 25 times as large as the second value I_2 and the first time T_1 is 4 to 25 times as long as the second time T_2 can be easily formed. Such a rectangular wave is advantageous to enhance efficiency of electricity and smoothing, as noted in the specification at page 12, lines 25 to 27. Therefore, a plating target having a face to be plated having a microstructure of a dimension of 50 micrometers or less can be treated well by the method of the present invention on an industrial scale.

The Applicant respectfully submits that the specific pulse plating sources of the present invention as claimed in claims 1 through 13 above are neither shown nor suggested in Omasa, Lashmore and the "Electroplating Engineering Handbook".

Accordingly, early and favorable consideration of claims 1 through 13 is respectfully requested.

Respectfully submitted,



John F. Gulbin
Registration No. 33,180

212-297-5800
Pitney, Hardin, Kipp & Szuch, LLP
685 Third Avenue
New York, New York 10017-4024